REMARKS

Claims 1, 2, and 8 remain in the applications and have been amended hereby, whereas claims 7 has been cancelled, without prejudice or disclaimer.

Reconsideration is respectfully requested of the rejections of 1, 2, and 7 under 35 USC 103, as being unpatentable over Lee in due of Griesinger.

As explained in the present specifications the present specification is intended to provide a system whereby a number of spatially related input signals can be combined and processed for subsequent reproduction over a headphone unit, such that sound image positioning is provided to the headphone user. As shown in Fig. 1, the input signals represent the well known 5.1 system in which there is a left front and a right front, a left rear and a right rear, and a sound imaging signal noted as SFF in Fig. 1. These signals are provided to a distributing circuit, shown for example in Fig. 2, in which the sound imaging signal is added to two of the four input audio signals. Alternately, that sound field image signal can be processed and added to all of the four input signals, as shown in Fig. 9, for example. Thus, the distributing circuit produces four output signals from five input signals, and these four output signals are fed to a digital signal processor for processing into only two output signals, as shown in Fig. 5. The two output signals are then processed in a digital signal processor using head-related transfer function filtering, and the two output signals are fed to the

respective transducers of the headphone unit. In a further embodiment of the present invention, as shown in Fig. 15, a head rotation detector is provided and this information is then fed back to the filters of the head-related transfer function processing circuit to alter the filtering that is preformed based on the detected head rotation.

The claims have been amended hereby to emphasize the above-noted features of the present invention.

Lee relates to a system for receiving four-channel sound field signals and producing two-channel output signals to be fed either to two loudspeakers or to the transducers of a head phone. Lee mixes the signals from the various input channels and in some cases provides a transfer characteristic filter in at least two of the processing channels. Lee is completely silent concerning any sound field image signal that is added to at least two of the audio input channels, as in the present by claimed invention.

Griesinger is cited for showing a variable attenuator, such as that provided in the circuit of Fig. 11 thereof.

Contrary to the teaching of the present invention, Griesinger provides the variable attenuators in the so-called three front signals, L, C, and R. Unlike the present invention, Griesinger does not relate to a sound field image signal that is processed by the variable attenuators and added to at least two of the input audio signals. Furthermore, it is respectfully submitted that the Griesigner variable attenuators would simply perform a level balancing operation in the four channel to two channel processor of Lee.

Accordingly, it is respectfully submitted that claims 1 and 2 are not rendered obvious by Lee and Griesinger.

Reconsideration is respectfully requested of the rejection of claim 8 under 35 USC 103, as being unpatentable over Lee in view of Griesinger and further in view of McGrath.

Claim 8 depends from claims 1 and 2 which for the reason set forth hereinabove is thought to be patentable distinct over the cited references and, for a least those very same reasons, claim 8 is also submitted to be patentable distinct thereover.

McGrath is cited for showing a head rotation detecting element as employed in claim 8. Nevertheless, McGrath falls to supply the missing teachings of either Lee or Griesinger relating to the distributing circuit that receives a sound field image signal and add portions of it to some the four other inputs signals, as taught by the present invention and as recited in the amended claims.

Accordingly, by reason of the amendments made to the claims hereby, as well as the above remarks, it is respectfully submitted that a audio reproducing apparatus receiving multiple a audio signals and producing two signals for playback over headphones, as taught by the present invention and as recited in the amended claims, is neither shown nor suggested in the cited reference, alone or in combination.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

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